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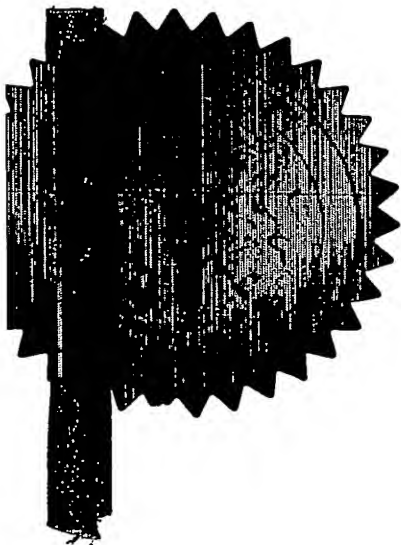
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Cardiff Road
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1. Your reference	10995P1 GB/CMB		
2. Patent application number (The Patent Office will fill in this part)	0207516.6		02 APR 2002
3. Full name, address and postcode of the or of each applicant (underline all surnames)	Reckitt Benckiser (UK) Limited 103-105 Bath Road Slough Berkshire UNITED KINGDOM Patents ADP number (if you know it) 07972136002 If the applicant is a corporate body, give the country/state of its incorporation England		
4. Title of the invention	Improvements In Or Relating to Containers		
5. Name of your agent (if you have one)	John Crawford McKnight Reckitt Benckiser plc Group Patents Department Dansom Lane HULL HU8 7DS UNITED KINGDOM Patents ADP number (if you know it) 07799521001		
6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number	Country	Priority application number (if you know it)	Date of filing (day / month / year)
7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application	Number of earlier application (day / month / year)		Date of filing (day / month / year)
Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if: a) any applicant named in part 3 is not an inventor, or b) there is an inventor who is not named as an applicant, or c) any named applicant is a corporate body. See note (d))	Yes		

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Claim(s)	3 /
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Priority documents	
Translations of priority documents	
Statement of inventorship and right to grant of a patent (<i>Patents Form 7/77</i>)	/
Request for preliminary examination and search (<i>Patents Form 9/77</i>)	One
Request for substantive examination (<i>Patents Form 10/77</i>)	One
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1. I/We request the grant of a patent on the basis of this application.

Signature

Date

John C McKnight
John C McKnight

25 March 2002

2. Name and daytime telephone number of Person to contact in the United Kingdom

John C McKnight (01482) 583719

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DUPLICATE

5

IMPROVEMENTS IN OR RELATING TO CONTAINERS

The invention relates to improvements in or relating to containers and in particular to an air freshening or purifying device utilizing a gel fragrance or a gel composition.

US-A-5780527 describes a gel which can be used as a fragrancng component in an air freshening device. This gel is particularly advantageous in that it can be used in attractively shaped open containers without the need for sealing. One air freshening device which is currently on the market comprises an attractive glass open sided container, which is recessed to form a dish with a base and circumferential side wall. The dish stands upright on a flattened section of its perimeter. A plurality of ridges are provided on the inner surface of the container base defining channels between the ridges, in which the gel is retained. As the fragrance is dissipated over time, the gel shrinks and cracks and is no longer wholly supported by the ridge walls. To prevent the shrinking gel from falling out of the container, a number of channels are used, which are fairly narrow or have narrow sections.

5

It is an object of the present invention to provide an alternative open sided air freshening or purifying device which is cheap to manufacture and is lightweight.

10

According to the invention there is therefore provided an air freshening or purifying device comprising a container having an open side defining a gel receiving surface, said container being thermoformed from a plastic material, the device further comprising means for supporting the container such that the gel receiving surface is in a substantially vertical orientation.

15

The use of a thermoformable plastic ensures that the device is lightweight and simple and cheap to manufacture.

20

Preferably the supporting means comprise a separate base having a slot for receiving at least a portion of the perimeter of the container.

25

Alternatively the supporting means may comprise a base integrally formed with the container.

5 In a preferred embodiment of the invention the gel receiving surface comprises a variety of projections defining recesses therebetween.

10 The container is preferably formed with a circumferential rim and the rim preferably has a width greater than the depth of the gel receiving surface.

15 A removable cover is preferably applied to the container to cover the gel receiving surface.. The removable cover is preferably a foil material which is heat sealed to the container. Alternatively a plastic laminate could be used for the removable cover.

20 The container is preferably filled with a gel composition, which may be a fragrance, an air purifying composition or an insecticide.

 The gel is preferably a gel as described in US-A-5780527.

25

 A preferred embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which:-

5

Figure 1 is a front elevation of an air freshening device according to the present invention; and

10

Figure 2 is a cross-sectional side elevation of the air freshening device of Figure 1 on the line II-II.

Referring to Figure 1 there is shown an air freshening (or purifying) device 10. The device 10 comprises a container 11 and a supporting base 12. The container 11 illustrated is substantially circular, although various other shapes can be used. The container 11 is preferably made from a clear, translucent and/or colored thermoformable plastic material, which is at least partially rigid and liquid impermeable.

The container 11 has a gel receiving surface which is preferably provided with a series of projections in the form of ridges 13, defining therebetween recesses in the form of channels 14. The profile of the ridges 13 and channels 14 is not limited to that illustrated. The container 11 may have a single recess for receiving gel

5 in an otherwise planar surface, although a series of
ridges 13 and channels 14 is preferred.

It is preferred, however, that some or part of the
channels 14 are reasonably narrow to hold the gel
10 composition with which it will be filled as it shrinks or
cracks over time, especially as the container 11 is
intended for use with the gel receiving surface in a
substantially vertical position. It may be that
additional means are provided within the channels 14 or
15 recess to assist holding the gel therein. The container
11 may have a circumferential rim 16, the depth of which
is greater than the depth of the gel receiving surface.
This may assist in stabilising the container 11 in the
base 12.

20

The gel receiving surface preferably provides an
attractive pattern. Thus when the container 11 is filled
with a gel composition, preferably of the type described
in US-A-5780527, which is preferably strongly colored,
25 the shape of the channels 14 is highlighted to give an
attractive appearance. The gel preferably results from
the cross-linking, in situ, of a homopolymer or co-
polymer in the presence of a perfuming, deodorizing or

5 insecticidal base. A suitable co-polymer is maleinised
polybutadiene or polyisoprene such as Lithene N4-9000
10MA (Registered Trade Mark) obtainable from Revertex
Limited. A suitable cross-linking agent, for example, is
a diamine sold under the name Jeffamine 400 (Registered
10 Trade Mark) obtainable from Huntsman Corp.

Suitable materials for the container 11 are APET,
PETG, polypropylene or polyacrylonitrile as these have a
high degree of clarity, are easy to thermoform and are
15 resistant to attack by perfume. Further materials may
comprise polyethylene and nylon, although these tend to
be translucent or of a milky appearance or PVC,
polystyrene and styreneacrylonitrile, although these may
be susceptible to fragrance attack.

20

The supporting base 12 can be of any suitable shape,
such as being substantially wedge-shaped in cross-section
and is provided with a slot 15 for receiving a portion of
the container 11. The base 12 and slot 15 must be
25 dimensioned appropriate to provide sufficient support for
the container 11.

5 Alternatively, the container 11 can be formed unitarily with the supporting base 12, such that the container 11 has a supporting base section which is shaped to provide support for the overall device 10.

10 The container 11 is conveniently provided with a removable lid covering the gel receiving surface, in the form of a tear off plastic or foil cover, to project the gel before use or prevent it from escaping. The cover may be transparent to show the gel, or opaque or translucent.
15 In the latter cases the cover may be printed, for example with instructions or trade marks or other information.

 The air freshening or purifying device according to the present invention is convenient not only because of
20 its lightweight nature and ease of manufacture, but the nature of the materials from which it is made means that additional packaging materials are not necessary when the devices 10 are sold.

5 CLAIMS:

1. An air freshening or purifying device comprising a container having an open side defining a gel receiving surface, said container being thermoformed from a
10 plastics material, the device further comprising means for supporting the container such that the gel receiving surface is in a substantially vertical orientation.

2. An air freshening device or purifying device as
15 claimed in claim 1 in which the supporting means comprise a separate base having a slot for receiving at least a portion of the perimeter of the container.

3. An air freshening or purifying device as claimed in
20 claim 1 in which the supporting means comprise a base integrally formed with the container.

4. An air freshening or purifying device as claimed in
any one of the preceding claims in which the gel
25 receiving surface comprises a plurality of projections defining recesses therebetween.

5 5. An air freshening or purifying device as claimed in
any one of the preceding claims in which the container is
formed with a circumferential rim.

6. An air freshening or purifying device as claimed in
10 claim 5 in which the rim has a width greater than the
depth of the gel receiving surface.

7. An air freshening or purifying device as claimed in
any one of the preceding claims further comprising a
15 removable cover applied to the container to cover the gel
receiving surface.

8. An air freshening or purifying device as claimed in
claim 7 in which the removable cover is made from a foil
20 material which is heat sealed to the container.

9. An air freshening or purifying device as claimed in
claim 7 in which the removable cover is made from a
plastic laminate which is heat sealed to the container.

25

10. An air freshening or purifying device as claimed in
any one of the preceding claims in which the container is
filled with a gel composition.

5

11. An air freshening or purifying device as claimed in claim 9 in which the gel composition is a fragrance.

12. An air freshening or purifying device as claimed in
10 claim 9 in which the gel composition is an insecticide.

13. An air freshening or purifying device as claimed in claim 9 in which the gel composition is an air purifying
15 composition.

14. An air freshening or purifying device substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

5

ABSTRACT

IMPROVEMENTS IN OR RELATING TO CONTAINERS

The invention relates to improvements in or relating to containers and in particular to an air freshening or purifying device utilizing a gel fragrance or a gel composition. The air freshening or purifying device comprises a container having an open side defining a gel receiving surface. The container is thermoformed from a plastics material, and the device further comprises means for supporting the container with the gel receiving surface in a substantially vertical orientation.

20

25





FIG. 1

